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ABSTRACT

The curriculum guide for teaching social sciences to mentally gifted children in grades 1 through 3 includes information about the interrelationships among individuals, broad understanding of the institutions created by human beings for their own guidance and control, and comprehension of the interactions between human beings and the elements of their natural environment. Based on the Guilford Structure of Intellect model, the booklet includes chapters on curriculum content, skills, and behavioral objectives; teaching techniques; the basic content, behavioral objectives, generalizations and concepts, activities, and evaluation of a sample unit plan; and a sample lesson plan. A list of references includes information on books for children and teachers, films, and other materials. (SBH)

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social sciences

CURRICULUM GUIDE FOR TEACHING GIFTED CHILDREN SOCIAL SCIENCES IN GRADES ONE THROUGH THREE

Prepared under the direction of the
Gifted and Talented Education Management Team
California State Department of Education

EC104074

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Information about other publications in the gifted education series may be found on page 34.

Foreword

A primary goal of California public schools is to provide equal opportunity for *all* pupils to become proficient in the basic skills and knowledgeable in the basic subjects. In our efforts to achieve this goal, we must provide programs that are of sufficient scope and depth to permit each child to learn at his or her own rate and to the full level of his or her ability.

Gifted pupils, as a group, have unique educational needs, many of which we can meet only by providing for a high degree of flexibility in their educational programs. Several years ago the Department of Education directed and coordinated a federally funded project for the development of curriculum materials of the type needed for such programs. The 1970 edition of this curriculum guide was a product of those efforts. I am pleased that the Department now has the opportunity to help further the educational opportunities for the gifted by publishing this 1977 edition, *Curriculum Guide for Teaching Gifted Children Social Sciences in Grades One Through Three.* I am confident that this updated publication will prove to be as valuable as its predecessor in our efforts to help gifted children realize their full potential.

Superintendent of Public Instruction

Preface

This curriculum guide, which was planned and completed originally in 1970 as part of a project under provisions of the Elementary and Secondary Education Act, Title V, was updated this year as part of a Public Law 93-380, Section 404, project, Development of Teaching Competencies—Gifted and Talented Education. The guide is intended for use by the teachers of students whose general mental ability places them in the top 2 percent of all boys and girls.

Curriculum Guide for Teaching Gifted Children Social Sciences in Grades One Through Three is one of a series of curriculum guides for use by teachers of mentally gifted students. The 1970 edition of the guide was written by Barbara Hauck, Assistant Professor of Educational Psychology, University of Washington. She prepared the guide under the direction of John C. Gowan, Professor of Education, and his assistant, Joyce Sonntag, Assistant Professor of Education, both of San Fernando Valley State College (now California State University, Northridge). The guide was updated by Stephanie Eliason, Pasadena Unified School District, under the direction of Paul D. Plowman, Consultant, Gifted and Talented Education, California State Department of Education; and Director, Development of Teaching Competencies—Gifted and Talented Education Project.

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CHAPTER 1

Introduction

The social sciences curriculum includes information about the interrelationships among individuals, broad understanding of the institutions created by human beings for their own guidance and control, and comprehension of the interactions between human beings and the elements of their natural environment. Virgil Ward suggests that it is the gifted person who will plan and effect innovative change and a creative restructuring of society.[1] The education of gifted people must include, then, a breadth of knowledge about the human being and his or her works and, even more imperatively, must guarantee development of the cognitive processes underlying logical thought, problem solving, creative production, and systematic evaluation. This education must stress the growth of effective processes leading to empathy with humankind.

The social science curriculum is uniquely appropriate for gifted children because of its great range of intriguing topics and its rich array of available materials and resources. Most bright children are curious and eager to explore interesting topics. They tend to learn readily and to retain what they have learned. How well the students learn to plan, discover, apply, analyze, evaluate, predict, extrapolate, or synthesize is of far greater importance than how rapidly they acquire facts. Learning how to learn, in the sense of acquiring learning sets that can be transferred to new situations, will be of enduring value to the gifted person.[2]

This curriculum guide is planned for use in a homogeneous class of mentally gifted minors. However, many of the ideas can be adapted readily to a cluster group of gifted children in a regular class setting. Except for activities such as dramatics that require groups of children, many of the activities will be usable with a single gifted

[1]Virgil Ward, *Educating the Gifted.* Columbus, Ohio: Charles E. Merrill Publishing Company, 1961, pp. 84-85.

[2]See Robert M. Gagne, "The Acquisition of Knowledge," *Psychological Review,* LXIX (1962), 355-65.

child whose needs suggest a specialized approach. Notations throughout the guide call attention to possible adaptations for clusters or for individuals; further appropriate ideas may be extrapolated by the teacher.

Major social science themes for the primary grades in California center on the child's immediate environment and relationships. The themes begin with the home, the school, and the community; then they branch outward to encompass other communities, the nation, and the world. Although gifted children need to know the things their chronological peers are learning, the objectives and experiences written into this curriculum emphasize those areas especially relevant to the education of the gifted.

An important subtopic within the social science framework for the primary grades is the effect of the natural environment on people and on their way of living and the ways in which the natural environment is, in turn, controlled and utilized by human beings.[3]

This subtopic of the interactions between people and their environment has been selected for emphasis in this guide not because it is the major theme or the only one that could have been so used, but because it lends itself to the exploration of material likely to be novel and interesting to the bright child. The subtopic is used here as the vehicle for a process-oriented approach that will encourage mentally gifted pupils to learn to use a wider variety of intellectual operations and to develop thinking abilities of a higher level.

The guide relates closely to the Guilford "Structure of Intellect" model and to the taxonomies of educational objectives by Benjamin Bloom and others.[4] The Guilford model provides a theoretical basis or rationale for the selection of teaching methods and curricular experiences. By relating to the model, the teacher can plan activities designed to require students to use certain of the higher intellectual operations and to enable students to produce particular intellectual products or outcomes.

The Bloom taxonomies classify educational goals in an ordered scheme ranging from simple to complex in both the cognitive and the affective areas. These taxonomies provide a rational basis for the

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[3]*Social Sciences Education Framework for California Public Schools.* Sacramento: California State Department of Education, 1975.

[4]See J. P. Guilford, *The Nature of Human Intelligence.* New York: McGraw-Hill Book Company, 1967. See also *Taxonomy of Educational Objectives – Handbook I: Cognitive Domain.* Edited by Benjamin S. Bloom. New York: David McKay Inc., 1956. See also David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia, *Taxonomy of Educational Objectives – Handbook II: Affective Domain.* New York: David McKay Company, Inc., 1964.

development and organization of materials, instructional techniques, and evaluative devices appropriate to the attainment of specific educational objectives.

Among the suggested strategies for teachers listed in this guide are many that relate to those described by Frank Williams in his three-dimensional cube model. The dimensions of author Williams' cube include subject areas in the elementary curriculum. Thus, a given subject area can interact with any of 23 teaching strategies to produce any of seven thinking behaviors related to creativity. This model provides another usable construct for the classroom teacher who is seeking ways to extend the breadth of cognitive processes in gifted students.[5]

[5]Frank E. Williams, "Creativity – An Innovation in the Classroom," in *Productive Thinking in Education.* Edited by Mary Jane Aschner and Charles E. Bish. Washington, D.C.: National Education Association, 1968, pp. 281-82.

CHAPTER 2

Content, Skills, and Behavioral Objectives

This chapter deals with content, skills, and behavioral objectives in the social sciences for gifted children in grades one through three.

Social Science Content

Social science content has to do with facts and generalizations.

Facts

Community workers serve the home in many ways. Community agencies perform tasks beyond the scope of a single individual or family.

Many people work at school performing different tasks.

Schools serve the community in a variety of ways.

Natural resources help provide for basic human needs. The human being can modify nature to better meet his or her needs. Some aspects of nature still are uncontrolled.

Different forms of government exist at the local, state, national, and international levels.

In a democratic society people are directed and controlled by laws that they help to shape.

The communications media provide for an exchange of ideas and information.

Generalizations

Families everywhere are alike in some ways and different in other ways.

Family members have different responsibilities from one another.

Homes within a community differ from one another. People work at a variety of different jobs.

Cooperation among communities is enhanced by communications media.

Areas change over a period of time because of natural forces and the intervention of people.

People everywhere need food, clothing, and shelter. People are affected by their environment, interact with it, and modify it to a degree.
Weather, climate, and topography influence how people meet their needs.
People seek change as a means of improving their lot.
People move in an effort to better their conditions.
Movement of people causes regional and community problems in planning for services and in using resources.
Major industries develop where resources are plentiful.
Present conditions are always related to what has gone on in the past.
Communities have specific origins and patterns of development related to environmental and cultural factors.
Life is easier today because of the contributions of science and invention.
Natural resources are dissipated when people fail to control their use.
People working together can effect great environmental change.
Life in the community is influenced by its natural environment.
Land use is affected by terrain, soil, climate and weather, water, and local customs.
Natural resources are in limited supply, so conservation is essential.
Scientific knowledge has increased the human being's control over natural forces.
People can change the face of the land.
People satisfy their basic needs in a variety of ways.
People must interact with the environment to survive.
Cooperation among people results in greater environmental control than can be managed by individuals.
People must be wise in their interactions with the environment lest they damage or destroy the balance of nature.
If future generations are to be served, people must restore and conserve natural resources.

Social Science Skills

The gifted pupil in grades one through three should master a number of social science skills. He or she is expected to:

Learn to tell time, use a calendar, and record time.
Learn to make and use maps and locate places on maps and globes.
Relate world events to maps and globes.
Learn geographical terms and use them correctly.
Learn directions and directional terms (north, south, east, west).
Profit by visiting places of historical interest.

Discuss current events and their meaning to community, nation, and world.
Find and gather reference material on a given topic.
Organize and evaluate information.
Participate actively in group planning and group discussion: learn to be loyal, fair, and dependable in his or her group.
Learn the national anthem.
Learn the sources of authority and appreciate the function of rules.
Learn to respect other people's property.
Develop increasing responsibility for self.

Social Science Behavioral Objectives

Behavioral objectives in the social sciences are identified according to grade level as follows:

Grade One

1. Given the problem of knowing the individual duties, responsibilities, and interrelationships of family members, the student will be able to tape-record brief but appropriate role-playing sequences where he or she acts the parts of various family members.

2. Given a list of three different cultural groups, the student will be able to state orally how each group finds and prepares its major food item, creates an appropriate shelter, and works for a living.

3. On the basis of the responses to the previous questions, students will be able to infer a logical reason or explanation for the use of each particular food, shelter, or type of work mentioned.

4. The student will be able to cite at least two examples of the effects of local climate or terrain on the types of homes, crops, or jobs found in the community.

5. Given the problem of finding some area of the school or community that needs inprovement, each student will contribute at least two ideas toward a change that the students themselves could effect.

6. Given a list of ten products, the student will be able to identify eight products correctly and tell whether they are locally made. If the products are not locally made, the student will be able to tell where they come from.

7. The student increasingly values the interdependency among individuals within and between communities as observed in his or her willingness to accept responsibility for his or her own actions, to share in the work at home and at school, and to take part in community activities.

Grade Two

1. Given one fact about his or her environment (very rainy, poor soil, and the like), the student is able to suggest three ways in which this one thing affects persons in the community. He or she is also able to suggest a way in which this variable can be modified by humankind's intervention.

2. After the teacher reads an open-ended problem story dealing with individual freedom, the student is able to respond with an original solution consistent with the idea that responsible freedom does not impinge on the freedom of others.

3. Given a group of pictures of clothing items worn in specific areas of the world (e.g., serape, parka, muk-luks), the student will be able to identify the item correctly and speculate as to how climate and availability of resources have influenced the development and use of the item.

4. Given a group of pictures of items used by our ancestors during a given time in history, the student will be able to tell about the people of that period and their environment.

5. The student will be able to name ten objects with which our culture will be identified in the future and tell why.

6. After reading or hearing a story about a pioneer family, the student will be able to write a list of at least five ways in which the modern family is more dependent than the pioneer family on others for products and services.

7. After a discussion of the origin of food products, the student will be able to complete a regional product map.

8. After viewing audiovisual materials dealing with several cultures, the student will be able to demonstrate an understanding of how people live in different ways because of cultural heritage and environmental factors. He or she will write a story about an imaginary child in an imaginary land, using a plausible group of stated environmental variables.

9. After discussing cultural differences within our own community, the student will be able to name six ways in which our culture has become richer because of these differences (e.g., food, clothing, art, music, architecture, and holidays).

Grade Three

1. After class discussion about where individual students and their parents were born and how far and how frequently some families have moved, the students will indicate their awareness of some

problems and some advantages arising from mobility by being able to list at least three effects that movement of people has on the community.

2. Given the problem of showing how cooperation better enables people to meet their needs, the students will be able to write and illustrate a two-part story. Part 1 will show how a contemporary family would live if it had no services from others; Part 2 will show how conditions would be changed with services from others.

3. Given the hypothetical choice of living in a world independent of the help and cooperation of others, the students will understand and verbalize the consequences of living independent of help.

4. Given a hypothetical situation of living alone on a desert island, the students will be able to name the necessities for survival and the means by which they might be met.

5. Given the problem of what makes a good citizen in a community, the students will be able to state at least three factors that contribute to responsible citizenship.

6. Given ready access to magazines, newspapers, and TV newscasts in the classroom, the students will show their awareness of current events by increasing their contributions to the class discussions and by increasing their written contributions to the class newspaper.

7. Without the aid of references, the student will be able to relate in logical sequence the origin and development of their home community.

8. Using knowledge gained from resources, from speakers, and from library books, the students will be able to list at least three public services paid for by taxes or voluntary contributions.

9. Using any reference they desire, the students are able to produce an illustrated booklet on communications that pictures and describes the major communications media.

10. Given the background they gained in preparing the communications booklet, the students are able to suggest at least three reasons why an informed public is more desirable than an uninformed public.

11. Using any references they wish, the students are able to cooperate within a small committee of classmates in writing and producing a skit illustrating life in the community without access to conveniences such as running water, electricity, engines, and the telephone.

12. Using knowledge gained in researching and writing the skit about life without modern inventions, the students are able to give a speech on the topic "How Life Is Easier and Better Today Than One Hundred Years Ago."

13. Given the problem of demonstrating their understanding of the differences between urban and rural life, the students are able to tape-record, privately, up to five likenesses and five differences and are able to judge which they feel is "better" and why.

14. Using a reference book of their choice, the students will plan and perform a simple science experiment to illustrate a conservation problem such as soil erosion or soil depletion.

15. Given free access to all media, the students are able to plan and produce a simple mural or diorama depicting a community from another part of the world that contrasts sharply with their own in terrain, climate, products, dress, food, and customs. The students are to find answers to questions posed by their classmates on the depicted community.

16. On the basis of the students' study of another culture, they are able to state at least three values inherent in that way of life and are able to state at least one predicted change that may occur as the culture comes into the mainstream of world life.

17. Given free access to daily newspapers, news magazines, and TV newscasts, the students will be able to select three distinct news items that illustrate the human being's increasing control over the environment.

CHAPTER 3

Teaching Techniques

This chapter deals with specific techniques that the teacher of mentally gifted students can use to stimulate interest in the social sciences. These techniques are listed as follows:

1. Introduce perplexity and motivation to explore books, articles, and films on the natural environment (water, wind, soil, mountains, rain, sea, forests, mineral resources, seasons) through posing questions which indicate that a contradiction or a point of confusion exists that may be resolved by "finding out." Sample question: If we can control rivers with dams, then why do we still have floods?

2. Encourage interest in the unit by providing resource persons who can relate data and answer students' questions (e.g., a farmer, a lighthouse tender, a harbor pilot, a seismologist, a ranger, a geologist, and so forth).

3. Develop divergent thinking by posing open-ended questions such as: Will our growing knowledge of the causes of earthquakes ever enable us to predict accurately or to control major earthquakes?

4. Encourage the evaluation of situations by asking such questions as the following: What do you think would be the results if every farmer in the world immediately adopted the most modern farm practices? Would this change have any effect on our community?

5. Encourage visualization skill by suggesting that the children imagine they are a wave, a grain of soil, a raindrop, a forest seedling, or a lump of coal. Then have them write their point of view of some particular conservation practice by people or some environmental force in nature (a wave being tossed against the shore by a storm, soil being contour-plowed, a new seedling being planted on a barren slope, a seedling in the path of a forest fire).

6. Encourage analogies between people and nature adapting to natural disasters such as replanting after a forest fire. Introduce the fact that there are plants whose seeds germinate when heated by fire.

7. Introduce the idea of paradoxes, using ideas taken from the social sciences, such as the following: The world's resources have

been developed more rapidly as population has increased but are now threatened because of that population increase. How can this seeming paradox be explained?

8. Make a game of finding analogies. Sample question: In the Southwest adobe bricks were used to build houses because adobe clay, which was available and cheap, insulated well in the desert heat. What other building materials in other areas of the world are available, are cheap, and provide good insulation?

9. Encourage the process of naming alternatives. Sample topic: Our culture has depended heavily upon wood for building material in the past. Name the many synthetic materials which are being used by human beings to replace wood as a building material. Name the attributes of each, and compare them with the attributes of wood.

10. Promote the ordering of priorities by using the following sample question: If you could identify three environmental problems for the President of the United States to take action upon, what would they be?

11. Encourage flexibility in thinking by presenting such provocative problems as the following: If the proportions of water to earth were suddenly reversed to two-thirds land and one-third water, what are some of the things that might change as a result? How many different ways can you think of to_____? Are there other approaches that we have not discussed?

12. Promote fluency and flexibility of thought by dividing the class into two teams. Sample question: How many ways can a grain of soil get from a mountaintop down to the sea? Each team gets one turn to contribute an idea. Keep going until one side can think of no more ways.

13. Promote nonverbal responses by conducting a class session in which everyone remains silent, using only sign language, pictures, and acted-out sequences.

14. Encourage affective involvement by encouraging each child to put himself or herself in the other person's shoes and by encouraging the verbal description and sharing of affective feelings.

15. Encourage an understanding of change by asking questions such as: What are the causes of change? What would you change if you could? How would you go about it? What would you like to stop from changing? Why? What is the relationship between change and progress?

16. Require examples of change by asking questions such as these: What could we use here if we did not have_____? How could this be changed so it would not need_____? If we had only _____, and_____, how could we make_____?

17. Encourage the process of looking at opposite sides of a topic by asking such questions as: In what ways have human beings changed the environment for the better? For the worse? Can these conditions be corrected?

18. Encourage the awareness of the human being's responsibility to respect the balance of wildlife in nature. Promote the concept of cause and effect when the human being interferes unwisely. Sample topics: endangered species, killer bees, poisoned sea life, and so forth.

19. Provide opportunity to use as many sense modalities as possible in experiences. When discussing soil, feel it, smell it, look at it carefully. When examining a pine cone, experience the totality.

20. Require children to note attributes (inherent qualities) by recalling all the different ways water exists in nature: in lakes and rivers; as ice in glaciers; as rain, hail, snow, and so forth. Now think of all the words you can which describe water in nature (cold, wet, turbulent, calm, placid, rippled, buoyant, fresh, stagnant, and so forth). Sample questions: How does it feel? How does it smell? What does it look like? What does it do? How does it make you feel?

21. Provide opportunities for deductive thinking by giving each child a simple map showing mountains, rivers, a harbor, a valley, and the like from which he or she will tape-record his or her ideas of how wind, weather, the river, and the sea have contributed to the present terrain.

22. Promote original thinking by telling each child to pretend that he or she is a mighty river or an ocean, a hurricane, a drought, or a flood. Have each child write an interesting story, telling all the ways he or she is influencing people.

23. Encourage practical application of knowledge gained. For example, after a discussion of how natural phenomena affects structures built by human beings, have the children draw the design for a structure to be built near a major earthquake fault.

24. Encourage seeing issues from another point of view by having a child play the part of a TV newscaster who is describing the local community as hit by a drought, inundated by a flood, threatened by an avalanche, faced with digging out after an earthquake, and so forth.

25. Require problem solving and discovery by posing a situation to which the child does not have a ready solution. Sample question: What can a map and glove tell us about the forces of nature?

26. Encourage awareness and appreciation of how science and technology have changed our concept of the environment. Sample

activities: Compare old maps and gloves with present day maps and gloves. Study and discuss myths which explained the unexplainable phenomena in our environment.

27. Require the children to examine implications by asking such questions as this: What would be the result if there were no rain for one year? How would we be affected by a voluntary water cutback? How would we be affected by water rationing?

28. Encourage independent thought and initiative by planning unstructured blocks of time when children are free to think, dream, or work on their own initiative.

29. Provide opportunities for children to interact in and out of school with creative, productive adults with whom they can share an interest, hobby, or area of specialization.

30. Provide frequent opportunities for artistic and aesthetic expression and encourage affective responses to these experiences. Sample suggestions: Experience a snowstorm, a warm spring rain, a "togetherness" experience; feel a furry coat; enjoy a prism or a kaleidoscope; create a "light show."

31. Encourage the development of a social conscience by having children portray various experiences. Examples: A child whose parents have no food in the house; an old person who cannot get around easily; a student who is new to the school and who is of a different race; a child who has a serious handicap.

32. Encourage introspection and self-understanding by providing information about easily understood psychological principles, such as the defense mechanisms. Then employ role playing to illustrate the use of these principles.

33. Help to develop awareness of part-whole and relational concepts. Examples: Rain is an aspect of climate; home is one part of the community; we are part of nature.

34. Encourage the children to be aware of detail in the environment so that they can form a more accurate total awareness. Sample assignment: Have each child study closely a square foot of ground and tell how many different things are visible (rocks, soil, sand, gravel, insects, weeds, flowers, and so forth). Draw a picture to include what is in the mini-environment.

35. Encourage inferring from information and deducing consequences of actions. Sample questions: Given this piece of information, is there anything we might predict? If all letter carriers went out on strike, what would be the consequences?

36. Encourage delay in gratification and increase in tenacity of purpose by showing children how to provide their own reinforcements and feedback. Sample suggestion: After each 15 minutes of

writing, do something you especially enjoy doing for five minutes and then get back to work. It is easier to work if one has something pleasant to look forward to.

37. Build arousal of curiosity into each day's planning. Example: I'm not going to tell you who our speaker will be, but I'll give you some hints; see if you can figure it out. The speaker has something to do with transportation. This person uses very special kinds of maps to avoid danger. You be thinking about it until this afternoon.

38. Promote association of ideas by frequently playing a word-association game. Example: Who can think of some way in which each of the following pairs of words is connected: poor–sick; help–swim; rain–electricity; airplane–paper?

39. Encourage elaborative thinking by providing only the "bones" of a story, play, mobile, and the like. Have the children embellish the outline with original additions.

40. Develop the ability to compile information and present it in a logical and attractive way. Example: Children can make a filmstrip which develops a theme through the combination of pictures and narration.

CHAPTER 4

Sample Unit Plan

A major area of study in the third grade social science curriculum is concerned with the human being's interaction with and utilization of the natural environment. This study unit provides basic knowledge and experiences that lead to an understanding of environmental forces and conditions with which people must deal. The environment must be understood before it can be controlled and used wisely. This study unit also provides background for such understanding in its concern for the power of natural forces; for people's adjustment to unmodifiable elements in the environment; for people's increasing but imperfect control over other aspects of nature; and for people's need to cooperate with others in dealing with the environment.

Environment is a strong determinant of where, how, and how well people live. Through these lessons the child should become increasingly aware of people's dependence on nature for their subsistence. He or she should understand that human beings can intervene in many ways to better their own lot by increasing the fertility and yield of the soil; by controlling floods and erosion to an extent; by providing for drainage and irrigation; by controlling the effects of climate to a degree by their choice of clothing and habitation; and by using natural resources to provide heat and coolness.

The third grade pupil is helped to see the interdependencies and balances in nature that the human being sometimes has upset or destroyed through his or her ignorance or carelessness. Conservation of natural resources is presented as an aid to people's biological survival and as a necessity in preserving the beauties of nature for people's aesthetic satisfaction. Appropriate conservation policies are shown to be important in a period of population expansion and increased pressures for a better standard of living.

As the child understands how primitive people increased their dominance over nature when they invented tools, began to use fire, and domesticated plants and animals, the child can see more easily how today's people continue to harness natural forces for their use, protection, and benefit. The child can also relate the cooperative efforts of many people working together for the common good to

some of the huge conservation and control projects undertaken by governmental agencies.

Finally, the child is made aware that some aspects of nature continue to elude the best efforts of human beings. Although scientific invention and human innovation continue to mitigate the raw impact of nature, unconquered frontiers still remain.

So that visualization skill might be developed, this unit may be presented as if seen through the eyes of American children living in the year 2100. These children are seen as looking back over the record of the ways human beings have interacted with the environment. Their interest derives from the painful fact that America has become, by then, short of many vital resources—oil, water, lumber, good soil, minerals, and even clean air. The children are wondering where it all began, how human beings intervened in inappropriate ways, what needs to be done to restore and repair the damage, and what innovations and inventions may substitute for resources irretrievably lost.

Basic Content

1. Nature determines to some extent where, how, and how well people live.
   a. Primitive people existed at the mercy of nature.
   b. Advances in technology have given modern human beings greater control over natural forces.
2. When human beings have been unable to control nature, they have been ingenious in adapting to it.
3. The human being's interventions with nature have had both beneficial and detrimental effects.
   a. Cooperative projects benefit large numbers of people; e.g., projects for controlling floods, providing irrigation, and the like.
   b. The human being's ignorance or carelessness has resulted in despoiling land and water resources, in depleting wildlife, and in upsetting the balance of nature.
4. The human being gained partial control over certain natural forces for his or her use, protection, and enjoyment.
5. Some natural forces have continued to resist the human being's control.

Behavioral Objectives

1. Given a list of five environmental variables (wind, rain, topography, forests, and air), the student will be able to name several

ways in which human beings can adapt to or change each. Given the same list, the student will be able to name several ways these variables have influenced human beings.

2. After free exposure to the materials of this unit, the student will be able to draw an analogy between people's incomplete control over nature and a parent's incomplete control over a child.

3. Given access to a teacher-made file of pictures illustrating the beauty and grandeur of nature and a second picture file showing the disastrous results of natural and man-made catastrophes, students will be able to translate their feelings to words and will describe how a given picture makes them feel.

4. Given a list of three or four variables, the student will be able to describe what might happen in nature as a result of these factors occurring together: wind, waves, seacoast; thunder, lightning, drought, timber; fish, factory, river, beach; woods cut down to build a farm, wild turkeys, guns.

5. After exposure to books, films, and resource persons on conservation, the student will be able to associate ten flash cards of visual stimuli with an appropriate recalled aspect of conservation. For example, a flash picture of ocean waves might recall how waves wear down a coastline; a picture of badlands may recall the need for contour plowing; a picture of a flood may recall the need for watersheds of dams.

6. Without adult suggestion the student will show an increase in vocal support and rationale for practices that lead to appropriate environmental control rather than to inappropriate control practices.

7. Given a specific problem in environmental control (e.g., the devising of a plan whereby people could live comfortably in an area where the outside temperatures daily ranged between freezing and 43 degrees C.), the student will be able to draw up a logical plan.

8. Given the plans devised by other students for coping with a problem of environmental control, the student will be able to judge the value of each plan in terms of logic and appropriateness.

9. Given access to materials and information about basic inventions, the student will be able to name ten inventions that have had a strong influence on our knowledge and control of the environment. The student will be able to order his or her list from simple to complex.

10. Given cards naming the elements of the environment (wildlife, soil, water, air, trees, and so forth), the student will choose a role to play in a simulation of an environmental problem and tell how he or she feels about possible solutions.

11. Visualizing what life will be like in the year 2100, the student will tell what changes have taken place in the environment. He or she will be able to tell whether these changes were brought about by natural forces or those created by people. He or she will also tell how the human being has adapted to these changes.

Generalizations and Concepts

1. Human beings do not fully control the natural forces, although their knowledge and control are constantly increasing.

For the children: Eva Knox Evans, *Why We Live Where We Live*[1] (first two chapters especially pertinent in explaining how nature determines why we live in certain areas); Robert Irving, *Hurricanes and Twisters* (readable information on all aspects of these storms); George Bonsall, *Weather* (discusses many aspects of weather in understandable terms).

2. When human beings have been unable to control nature, they have been able frequently to make adaptations to it through their inventions and innovations.

For the children: Irving Robbin, *Caves to Skyscrapers* (tells how human beings have successively improved their habitations; may be interrelated with ideas about climate, terrain, natural resources available); Walter Buehr, *Through the Locks* (interesting general facts about canals, plus information on particular famous canals); Irving Robbin, *Basic Inventions* (contains information to help the student relate human beings' inventions to increase their control over nature).

For the teacher: Fletcher Pratt, *All About Famous Inventors and Their Inventions* (the story of "Cotton Gin and Reaper" to be read to the children; idea of cotton becoming unduly important to Southern economy to be interrelated; land overplanted and soil impoverished as a result; ensuing dust-bowl conditions in plains area).

3. Both beneficial and harmful consequences can ensue from the human being's interactions with nature, so planning and foresight are essential.

For the students: Helen Bauer, *Water: Riches or Ruin?* (introduction to conservation; chapters on soil, the human being's interventions, erosion, fire, plus positive conservation suggestions); Carroll Lane Fenton and Mildred Adams Fenton, *The Land We live*

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[1]Complete entries for all references given in this section can be found under "Selected References" at the back of this publication.

On (a pick-up book, beautifully illustrated, with poetic one-page descriptions of natural features, such as badlands, buttes, rivers, and the like).

For the teacher: Clarence J. Hylander, *Wildlife Communities* (introduction to ecology and balance of nature; how wildlife adapts to various environments; wildlife sanctuaries in North America).

4. Because natural forces are interdependent, modification of any single aspect can have pervasive effects.

For the children: Millicent E. Selsam, *How Animals Live Together* (animal interdependencies and social relationships); Lorus J. Milne and Margery Milne, *Because of a Tree* (how a tree is both shelter and food for a variety of living creatures; interdependency in nature).

For the teacher: S. Carl Hirsch, *The Living Community* (ecology; interdependence in nature; "No Place Like Iokas," a fine chapter to read as an introduction to this whole unit; "The Orderly Wilderness"—the balance of nature explained clearly).

5. Conservation of natural resources has developed as a reaction against wasteful exploitation.

For the children: Ivan Green, *Wildlife in Danger* (describes various forms of wildlife in danger of extinction).

For the teacher: Carl Walter Carlson and Beatrice Wells Carlson, *Water Fit to Use* (ideas about water pollution and conservation of water resources).

6. Each individual can contribute positively to the conservation and enhancement of the natural environment.

For the children: Wilfrid S. Bronson, *Freedom and Plenty: Ours to Save* (ties conservation into responsibility to our country's future; tells how resources have been used and abused; makes positive conservation suggestions); Dorothy P. Lathrop, *Let Them Live* (wildlife conservation); F.C. Smith, *The First Book of Conservation* (all areas of conservation covered in simple terms).

7. Since some attempts at control of nature are too difficult and costly for individuals, groups of people or governmental agencies must undertake the larger projects.

For the teacher: Henry Billings, *All Down the Valley* (story of the Tennessee Valley Authority; Chapter 11, pp. 142-68 especially good on reclaiming the land); Fon W. Boardman, Jr., *Tunnels* (Chapter 10, pp. 128-39: many large cooperative tunnel projects discussed, illustrating cooperation among groups).

8. Environment determines where and how people live, but they retain some control.

For the children: Eva Knox Evans, *Why We Live Where We Live.*

For the teacher. Jeannette M. Lucas, *Man's First Million Years* (how people survived, adapted, innovated, and used what nature provided).

9. The availability of natural resources directly affects a person's standard of living and way of life.

For the children: Leonard Weisgard, *The First Farmers in the New Stone Age* (beautifully illustrated story of neolithic farmers, domestication of animals, tool invention, clothing, art, and religion, including glossary and pronunciation guide).

For the teacher: Jean Smith, *Find a Career in Conservation* (Chapter 10, "Guardians of Soil and Water": information on soil conservation practices; conservation needed to maintain our standard of living).

10. The human being's ingenuity has enabled him or her to make up for some depleted resources by finding or creating substitutes.

For the teacher: Vincent Marteka: *Bionics* (how human beings have learned to use the systems and structures of nature as ideas for their inventions—radar, sonar, magnetic devices, celestial landmarks, and so forth).

11. As human beings make gains in scientific knowledge, they have fewer superstitions about nature; therefore, they learn to cope with natural phenomena realistically and rationally.

For the children: Yoshiko Uchida: *The Magic Listening Cap* (Japanese folk tales; "The Tubmaker Who Flew to the Sky": explanation of origins of rain and thunder); Miriam Cox, *The Magic and the Sword* ("The Bag of Winds": mythological explanation for the origin of wind); Donald Barr, *Primitive Man* (how early people lived and survived despite the harsh environment); Hart Stilwell, *Looking at Man's Past* (excellent for developing affective areas; appropriate attitudinal information on races and origins of people).

For the teacher: Jan Louise Curry, *Down from the Lonely Mountain* ("The Rescue of Fire": a legend about how fire was almost lost; to be contrasted with "How Maui Played with Fire" in next reference); Anthony Alpers, *Maori Myths and Tribal Legends* (illustrates folk explanations of natural phenomena).

Activities

1. Orientation of exploratory activities
   a. Have a bulletin board display of pictures (illustrating theme of "uncontrolled nature"—floods, tornadoes, earthquake damage, and so forth—to evoke pupil interest).

b. Have the children individually read and explore books and supplementary materials provided for their use.[2]
c. Use audiovisual materials to evoke interest in ways early human beings dealt with their environment in contrast with today's methods.
d. Take a study trip to some nearby conservation effort to see a program in action.
e. Have small groups discuss and develop a list of things they know about the human being's relationship to the environment and another list of things they would like to learn.
f. Have the students pose environmental problems which they feel have a direct impact on their lives and their futures. Encourage each student to choose one for further study and possible solution.

2. Informational and developmental activities
   a. Have a resource speaker answer questions on some environmental topic (e.g., an anthropologist, a forest ranger, a county farm agent, a soil conservationist, a weather forcaster, an Army engineer).
   b. Discover which kinds of food resources come from fresh water and salt water to develop the idea of the importance of water.
   c. Seek evidence of water pollution or soil erosion in the local area, and try to find out what is being done about these problems.
   d. Conduct a brainstorming session on the environmental theme (e.g., How can we clean up the air? Name all the uses you can think of for wood. Design a means of land transportation without using the wheel. Design a better street light, lawn sprinkler, garden hoe, heater, and so forth).
   e. Have children bring in current news articles on natural forces and on the human being's attempts to control these forces.
   f. Provide information relating to a relief map to clarify influences of terrain on where and how people live. Have the children do a map exercise to illustrate their understanding.

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[2]See entries under "Selected References" at the back of this publication for suggested books and other materials.

g. Have the children study a population density map superimposed over a relief map. Hazard guesses as to why certain patterns of density and sparsity of population occur.
h. Compare and contrast language, dress, habitation, food, and way of life in several contrasting cultures, and seek to identify underlying environmental influences.
i. Construct a diorama illustrating the intervention of people in the use and misuse of the soil.
j. Continue to add new questions to the original list.
k. Continue to work on solutions to specific environmental problems. Use scientific methods as well as creative and unusual methods. Take calculated risks but be careful not to create a new environmental problem with the solution.
l. Conduct a mock TV interview with a river, a forest, and a farm that are protesting their treatment.
m. Have children conduct an opinion poll among parents to assess what the parents feel are critical local conservation problems. Discuss these problems.
n. Develop a vocabulary list of new words as they are acquired.
o. Divide the class into interest groups for further study.
p. Play the role of primitive farmers; of a fish family living in increasingly polluted waters; of deer in a forest fire; of a child during an earthquake. Stress affective areas.
q. Have the children exchange information through discussions, reports, and presentations.
r. Relate to the feelings of people who are victimized by environmental forces—either natural catastrophes or disasters brought on by man. Role-play and react.

3. Concluding activities
   a. Plan and produce a play set in the year 2100. Have the characters look back over the conservation record and progress in interacting with nature.
   b. Write original stories, poems, and dramas about nature and its control.
   c. Exhibit projects which have been developed during the course of the unit.
   d. Make a chart showing which forces of nature are mostly controlled, which are only partially controlled, and which are not controlled at all.
   e. Engage in some real conservation project.

f. Summarize on a time line the advances people have made in dealing with nature.
g. Evaluate inventions in terms of their influence on the natural environment for better or worse.
h. Predict the effects of today's conservation practices on the world 100 years from now.
i. Relate the learnings of this unit to other areas, such as literature and science.
j. In small groups plan an ideal community. Use a magnet board or flannel board presentation to share ideas with the rest of the class.
k. Rewrite the story of civilization without the inventions of the simple machines (e.g., wheel and axle, pully, incline plane, lever, wedge, screw).
l. After studying an environmental problem and its possible solutions, choose the most creative or unusual solution for elaboration and presentation to the class.

4. Continuing activities
   a. Use resource people who may become available to discuss any aspect of the human being's interaction with the environment.
   b. Encourage continued reading and interest in these topics by keeping bulletin board space for news items and by providing a changing supply of books.
   c. Reinforce children's reports of visiting dams, noting evidences of floods, erosion, pollution.
   d. Endorse and encourage continued participation in conservation efforts.

Evaluation

1. Evaluation by the teacher
   a. Assess students individually and collectively at frequent intervals to see whether they have reached stated behavioral objectives. (The teacher may use ratings on originality of contributions to discussions and observations of specific behavior change in comparison with base-line data on the child.)
   b. Assess affective feelings of individuals concerning material developed during study of the unit by asking open ended questions (e.g., What if? How would you change? Why isn't? What would it have been like?).
   c. Assess processes, applications, and reactions. Have the children been encouraged to use creative and divergent

thought processes? Have the children learned to apply the processes used in other areas of knowledge? Have the children reacted enthusiastically?

2. Evaluation by parents
   a. Evaluation may be made during scheduled conferences with teacher, during class events attended by parents, or during informal contacts with the parent in the community.
   b. Assess parent response to the program by noting attendance and participation at school events, letters addressed to the school by parents, and parental phone calls to the school.
3. Evaluation by students
   a. Assess student reaction to material and units. Has the program met their needs and has it been related to their interests and concerns?
   b. Solicit suggestions for additions, omissions, and changes to meet student needs better.
   c. Have the students make a list of what they now know about humankind and the environment. Include basic facts and understandings. Compare this list with the list made during orientation.

CHAPTER 5

Sample Lesson Plan

This chapter presents for consideration a sample lesson plan for use in teaching social sciences in the third grade. Specifically, it deals with the human being's dependence on water and control over water resources.

1. Concepts
   a. Primitive people existed at the mercy of the elements.
   b. As people's knowledge increases, they are better able to cope with the forces of nature.
   c. The basis of new knowledge is previously discovered information plus an intuitive leap on the part of a creative individual who recombines the facts, adds some necessary component, and thus arrives at a "new" idea.
   d. Cooperative effort can accomplish more than individual effort in conservation projects.
2. Behavioral objectives
   a. After exploring the material in this unit, the student will be able to state at least three ways in which a modern American family is better off than a primitive family because of the technological advances in controlling water in nature.
   b. How can there be a water shortage when millions of gallons of fresh water daily run into the sea? This paradoxical question should stimulate the student to write a paragraph or two of logical explanation.
   c. The student will be able to help plan and act out a play in which the many forms of water in nature (rain, the sea, rivers, floods, lakes, springs, snow, glaciers, and so forth) have sent delegates to a meeting to consider how they can outwit and resist further control by human beings.[1]
3. Learning experiences
   a. Opener: Conduct a series of simple science experiments that demonstrate the various states of water (solid, liquid, and

[1]See Abraham Shumsky, *Creative Teaching in the Elementary School.* New York: Appleton-Century-Crofts, Inc., 1965, pp. 206-7.

vapor). Introduce the water cycle concept and make analogies to the stages of the science experiments.

b. Sample follow-up experiences: Play association games. Ask children to tell what first comes to mind when they hear such words as water, ice, river, cloud, rain, ocean, faucet, dam, fog, and so forth.

Make a list and order from gentle to forceful some common water phenomena (e.g., mist to waterfall).

Discuss the ways in which human beings have harnessed the power of water for their use.

Experience the sound of water. Record some available water sounds and have the children guess what made the sound (e.g., leaky faucet, boiling water, rain, lawn sprinkler, fountain, ocean waves, and so forth). Also experience taste, touch, sight and smell of water.

Name all the sports which are dependent upon water. Do the same with industries, modes of transportation, and so forth.

Compose a 20-word telegram that tells the story of drinking water from its natural origin to the faucet.

Write a classified ad for the sale of a pail of water.

Discuss what would happen if a person woke up one morning to find that the water supply had vanished during the night.

Describe an idea for a television show which would suggest ten ways to conserve water and power.

Become water conscious. Think of how the water is transported to the faucet in the sink.

Draw a parallel between human beings building dams and beavers building dams. Look for similarities and differences.

Visualize a planet without water. Does it have life? Use as many descriptive words as possible.

Write a science fiction story about an underwater city.

Recall common sayings which refer to water (e.g., wet behind the ears, in a fog, icy personality, water logged, watered down, water under the bridge, and so forth).

Visit the local water department and learn where the water supply comes from.

Trace on a map the distance the water travels before it arrives at the faucet.

c. Development:

Have the children discuss how they think people may have begun to control water. Irrigation? Drinking? Flood control?

Read a folk tale to the class about the origin of water. Why did the people have such a myth? Why do people need explanations for things?

Allow children to illustrate myths. Some children may prefer to read further in the books of mythology to find other explanations about water and the power of water.

Have the children make a time line extending from Neolithic times to present. As information is found about inventions and innovations relevant to water, put them on the time line.

Discuss how human beings have related their feelings about the earth's water through song and story.

Have the class listen to a recording of Smetana's *Moldau*.

Discuss how the music made them feel. Stress the use of expressive words and phrases.

Provide a choice of creative activities for expressing how the music made them feel: writing, painting, finger painting, sculpture, creative dramatics, free dancing.

Children share their projects, then join in discussion about "things that could be said about the Moldau that could be said about most other rivers."

Read excerpts from *Tom Sawyer*, and encourage the children to relate their feelings about the mood of the river.

Have the children search magazines for pictures that represent advances in technology in dealing with water (dams, bridges, tunnels, canals, power plants, umbrellas, coats, faucets, sprinklers, showers, and so forth). Have small groups of children divide these items into two categories, those probably among the earliest invented and those probably invented later. Discuss why some of these things were invented earlier than others.

Have several children or a single child make a scrapbook of the pictures with their comments.

Ask the children the following question: How many brand new ideas or expansions on already known ideas can you think of for controlling water? (Try brainstorming: Write ideas, unevaluated, as fast as they are expressed? After all are listed, consider each and encourage evaluation and elaboration. How could these ideas be applied to controling other aspects of nature? Would they work? Why or why not?)

Activity: Have the children draw or construct their ideas from the brainstorming session.[2]

4. Conclusion
   a. Children plan and act out a sequence in which many different forms of water (see behavioral objectives) send delegates to a meeting to plan how to outwit the human beings and to resist their controls. Stress how people would feel if they were rivers and someone built tunnels under them, bridges over them or power plants in their middles. Group activity. Several children or a single child can role-play for the rest of the class or can describe the sequence by writing about it in dramatic form.
   b. Develop a list of big ideas to watch for during the rest of this unit, asking such questions as the following: Why do people live where they do? Can people control all aspects of nature? Is the degree of control the same all over the world? Why or why not?
   c. Hold a mock trial, having students role-play a farmer suing the government for the loss of his or her farm, which has been taken for a dam site. Discuss and defend individual versus group values, long- and short-range benefits, and the affective feelings involved.[3]
5. Evaluation by the Teacher
   a. Have the children gained a greater understanding of their original knowledge, and have they gained new information?
   b. Have the children been encouraged to exercise a sense of humor, appreciate aesthetic experiences, respond constructively to surprise, take risks, respect differences, and avoid set patterns?
   c. Have the children had the opportunity to work alone and in groups?
   d. Have the children been encouraged to give spontaneous responses as well as logical and scientific responses?
   e. Has student interest been encouraged even though it takes the lesson in a direction other than that planned?
   f. Have the students been given the opportunity for development of thought processes as opposed to rote learning?

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[2]The foregoing activites and those that follow in the conclusion will not all be used. The teacher is urged to select those most appropriate for his or her group. Since time requirements vary widely, the teacher should make judgements about how much time to spend on a given activity according to the importance of the concept being developed, student interest, and so forth.

[3]Mary Jo Woodfin, "Elementary Social Studies," in *Bold New Venture*. Edited by William B. Michael. Bloomington, Ind.: Indiana University Press, 1968, p. 201.

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Films

In the Beginning, 30 min., color. (Deals with African prehistory, early farming practices, tools, means of livelihood, man's progress in coping with his environment.)

House of Man: Our Changing Environment, 17 min., color. (Shows waste of natural resources, water pollution.)

Waters Divided, 30 min. (Deals with history of Columbia River; early use of river by Indians for fishing and irrigation; building of the Grand Coulee Dam and Bonneville Dam.)

Wirritt Wirritt, 8 min., color. (Shows rock paintings by Australian aborigines which tell legend of how man learned secret of making fire.)

Yours Is the Land, 20 min., color. (Deals with man's exploitation of the earth's resources; interdependence of soil, water, forests, grasslands.)

Other Materials

Audubon Society materials (on wildlife conservation)
Time-Life Science Library Series
Transparencies

Weather (shows terms, causes, and effects of weather)

Man Learns to Control His Environment (shows man's basic needs and the manner of satisfying them under various environmental and cultural conditions)

Man's Basic Needs: Food (shows effect of environment on obtaining food)

Man's Basic Needs: Shelter (shows effect of environment in determining man's housing)

Man's Basic Needs: Clothing (shows roles of environment in determining the way a man dresses)

The Land That Supports Us (shows how the land replenishes itself under good management)

Note: All of these transparencies are available from Visual Products Division, Box 3344, DM Center, St. Paul, Minn., 55101.

Gifted Education Publications Available from the California State Department of Education

The following publications in the gifted education series are available from the State Department of Education, each at a price of 65 cents per copy, plus sales tax:

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